Rhode Island Water Resources Board
Water Management System Implementation Team

Meeting Minutes
Wednesday, July 7, 2004

Action Items:
Identify knowledgeable individual from MA to participate, coordinate & partner on water resource management bi-state issues. Jan Reitsma offered assistance on this action item.
Provide formal language per statute (page 6). Caroline Karp offered assistance on statutory language, & create a link between water quality and quantity, and water diminished by contamination.
Expand section on safe yield. Alicia Good offered to develop a paragraph on safe yield, global view, & localized impacts.
Revise and refine preliminary draft to further define context and describe the Blackstone basin water resources and supply (Chapters 1-3).
Prepare precipitation data on the Blackstone basin. Jim Campbell agreed to prepare this data.
Design an attractive water budget diagram for general audience. Ms. Karp agreed to work with staff on locating a student to design a "water budget" document.
Email homework assignments to return by July 19.
Include language water is a resource as well as supply. Eugenia Marks agreed to work on this.
Provide Blackstone buildout information. Beth Collins agreed to do this.
Include conservation discussion (reuse, recycle, etc) in discussion primer outline

1. Welcome and Approval of Minutes

Mr. Dan Varin called the meeting to order at 9:15 a.m. He welcomed attendees (attachment A) to the third meeting of the Water Resources Board Water Management System Implementation Team. He requested approval of the June 3, 2004 meeting minutes. After a motion to approve the minutes was made by Mr. Griffith and seconded by Mrs. Meg Kerr, Mr. Juan Mariscal requested that a list of meeting attendees be included with the minutes in the future. It was agreed that a list of attendees will now be included in the meeting minutes. Mr. Varin next turned the meeting over to Ms. Kathleen Crawley, meeting facilitator.

Ms. Crawley stated that today's meeting would focus on a discussion of the review materials transmitted via two email communications transmitted on June 21 and June 25, and the 4-page handout for today's meeting. The 4-page handout includes the meeting agenda, the 1-page Developing and Implementing a Water Budget – Components for Discussion, and 2-page first draft Blackstone Fact Sheet. The email-transmitted materials include:

June 21, 2004 Email Attachments and References
July 7, 2004 Meeting Agenda
June 3, 2004 Meeting Minutes
Description of Geology of the Blackstone Area
Regulatory Authority Organization Chart
Water Authorities Flow Chart
Map of Water Supply Districts from WRB Website
EPA Sole Source Aquifer Program Website

June 25, 2004 Email Attachments and References
Draft Chapter 1: Developing and Implementing a Water Budget
Draft Blackstone Water Budget Fact Sheet

She noted that Ms. Beverly O'Keefe should be credited with developing the meeting materials and logistics. Ms. Crawley stated that today's discussion would begin with discussion focused on the draft Chapter 1 materials, and conclude with discussion on identification of the essential criteria for developing a water budget. The Blackstone Basin draft Water Budget fact sheet will be used to focus this discussion. She asked attendees to identify what other intensive efforts need to done and opened the meeting for discussion.

2. Discussion on Draft Materials for Chapter 1

Ms. Crawley noted that the meeting goals identified on the first page are misidentified, and will not be the "chapters" of the report. The meeting goals have been included with the draft to maintain focus as the report is developed. The first chapter of the report will provide the context for developing a water budget, and essentially includes pages 1-19. Pages 19-31 begin to move into a specific discussion on the Blackstone Basin.

Discussion: The chapter is clearly laid out but water resources and water supply must both be included (pages 6-7). The idea that there are resources from which a supply can be used should be developed. Water supply can be diminished by contamination so there should be a discussion of the amount of water resources and supply actually and potentially contaminated should be included (pages 6-7). Ms. Caroline Karp was asked to provide additional information if available. Language needs to be included on consumptive and non-consumptive uses for aquatic life. For example, "a global and sustainable.."

Statement: As an engineer, I would like to see the facts and fewer words. The section on the Blackstone stating "surplus of developed water" (page 19) needs additional explanation.

Recommendation: I recommend a HUC12 or HUC10 map be used (page 8) to define watersheds better. All lands are in a watershed. An overview of the complicating factors of water budgets that includes out of basin transfers, etc. should be described.

Statement: Conservation language that stresses conservation of resources that are based on watershed principles should be included. For example, on page 2, regarding per capita consumption, convenience loss, etc. – put this right up front. The context provides the meaning. Include the concepts of reuse, recycle, recharge, and rainmaking.

Statement: The work of the Water Allocation program and the Implementation Team is exciting. Ground and surface water should not be separated in the first chapter. The context should also include water quality, demand management, and by-state/border sharing of the resource. Coordination with Massachusetts must occur if this project is to be successful as 60% of the watershed is in Massachusetts. USGS and the University of Massachusetts (Rees and Eggleston) are doing similar work in MA (water quality issues from Middlebury MA north), and should be included in our discussions. The draft watershed action plan may be relevant to our work. There are additional opportunities where collaboration could occur in various meetings, and I would be happy to coordinate an interstate collaboration.

Statement: The comment above invites the need for outreach to identify an individual who is knowledgeable and invite them to participate in what we are doing.

Facilitator: It is our goal to turnaround materials within a two-week time-period to provide Team members sufficient time to review and comment on materials.

Statement: The issue of safe yield is critical, and should be developed more within the context setting section. The discussion should include how to use in the future, and the local implications of withdrawals.

Statement: The title of the chapter reads "pilot" but it looks like this report will be laying the groundwork for a statewide system. Will the pilot study form the foundation for a statewide water management system?

Statement: Given the complexity of each watershed, it may be necessary to prepare a "volume" for each watershed.

Facilitator: A pilot template for the Blackstone Basin is the product that this Team will produce by December.

Statement: It is my hope that this report will tell us what is needed in terms of legislation and regulations at that time. This will then give us a head start in taking the steps necessary for this program.

Discussion: One member felt that the language should be formalized (page 6) and general law should be described. A second member stated the language was the adopted WRB policy. This section will be reviewed and revised as appropriate.

Break: A ten-minute break was called at 9:50 am. The Implementation Team reconvened at 10:02 am.

3. Discussion on Essential Criteria for Developing a Water Budget and Blackstone Basin Fact Sheet

Mrs. Crawley called the meeting back to order. She welcomed and introduced Mike Rubin from the Attorney General's Office who will be participating on the Implementation Team. Mrs. Crawley next referred members to the 4-page handout that will guide the discussion on the essential criteria for developing a water budget within the Blackstone basin. She opened the discussion asking "how much water do we have?"

Recommendation: I recommend that we need to start by looking at precipitation first. It is the context. We must look at the baseline over the last century so we can manage water for the future. Discussion included the statement that there is not a lot of data available but precipitation over time is variable. It was noted that a probability plot of high and low years of precipitation could be created. Another member stated that if the report will be designed for a general audience, then precipitation must be the beginning. A third member stated the information could be expanded for the next meeting. After discussion, it was agreed that precipitation data would be prepared for the next meeting.

Statement: One member asked why precipitation could not be used as element of sustainable yield rather than as a primary marker. Ms. Good noted that sustainable safe yield is dependent on so many variables that the use of an "average" year can be very misleading. She stated that people want reliability that water will be there. How much water and what are the risks and how are we managing what we have make up the definition of safe yield.

Facilitator: Ms. Crawley asked Jim Campbell, USGS Field Office Supervisor, to discuss sustainable safe yield and the 25%%, 50%, and 75th percentiles within the context of the USGS Blackstone reports that showed that use in one area at 136% used of available safe yield – was the area stressing the resource or not? She noted that water resources should be managed in a drought year not the sustainable yield given that an average year equates to the 75%. Therefore, she questioned, using the 50% equation, what are the constraints on the system?

Members agreed that it is difficult to understand the concept of "safe yield" and at what point is there not enough water, and that the definition and concept must be understood ? Where is the threshold set? Dr. Anne Veeger noted that care must be taken in using a percentage as some uses have a high consumptive use, while others do not. Andy Dzykewicz stated the number is relevant if we know what it is. For example, if we set the number at 25% of the 100-year drought, then that is the number. Mr. Walter Combs agreed the definition of safe yield is oversimplified, especially in the notion that some water can be stored. This concept should be expanded so that some years there is excess water that can be saved, and in other years there is a lack of water.

Facilitator: It is important to start with the basics, and when we identify "the number" then we have a starting point to allow us to predict what is and is not available. This is done by using the scientific investigations that have been completed by USGS, and use them to begin to get at what the "number" is. In this way, we will begin to feel more comfortable with how much water is available, and we will understand where we are. The next step will be to look at precipitation and buildout. I would like to ask if Jim Campbell will put together some precipitation numbers for the next meeting. I think buildout figures would be helpful also, and so, I ask Beth Collins if she could assemble some buildout information for August. These two pieces of information should help us get closer to our goal.

Question: Are you going to assume interbasin transfers? Will we have one big system? How will this be handled since we know water is transferred into the Blackstone basin. Who will make the decision on how to move water around? Should management be by watershed or by a central water authority? Should we use a natural or an engineering model? How will we explore this sufficiently?

Statement: Water is transferred out of basin all the time in this state. This is a current condition, and it creates headaches for the sewer treatment people and downstream flow issues. Lincoln folks do not like the taste of the Blackstone River water and so are supplied by the Scituate Reservoir. Oftentimes it is the perception of the people that rules how and what water resources are used.

Statement: Section 1.iv discusses the Blackstone basin. This is an immense watershed, and may need to be subdivided. What would be the right level to conduct a water budget analysis? There are Scituate Reservoir studies that look at per capita consumption, and they may be useful in looking at Blackstone communities and how they use water. The draft Chapter 1 and the question sheet should be combined in the final document.

Facilitator: The Arthur D. Little study has per capita figures, and this information could be used as a starting point. Water use and water availability are different, and both must be addressed.

Statement: Elizabeth Scott is right when she says that there must be a paradigm shift in thinking from "if you build it there will be water" to "if there's water you may build it."

Discussion: There is some skewing in the per capita figures. For example, people who have private wells are known to conserve water, and their water use increases when they are connected to public water systems. I note on the Fact Sheet that Ocean State Power withdraws more water than was originally agreed so these things have a way of expanding after the original agreements. Twenty years ago there were many "mom and pop" stores, and there are less today. But those shops that do exist conserve and reuse water, and this must be accounted for in the management system that we design. Mr. Reitsma agreed, stating that one day in the future we may have to face the issue that there is not enough water but this question needs only be answered in the future, not now. Ms. Karp responded that the "survival of the fittest" issue can be related to "existing vs. new residential users." This potential competition between these two groups should be prevented. Mr. Griffith noted that there are more than just the two groups of residential users. The farming community and agricultural use is another group with a strong interest in water resources to support agriculture. We must acknowledge there is competition, and when choices are forced upon us, decisions will have to be made. I don't think the public is aware that choices will have to be made.

Statement: On page 16, this conceptual model may not be relevant.

Statement: People on the Great Plains built on the proposition that rain follows the plow, but this is not true. There are unknowns in the management process that show the next drought could be worse than the drought of record so our decision-making must be conservative.

Discussion: Members agreed that information must be prepared in a variety of formats as people process information in a variety of ways. Therefore, multiple formats will be useful towards understanding a water budget. Mr. Walter Combs suggested that a "Blackstone Primer" be developed that includes numbers and names. Ms. Karp agreed that in the future, an attractive water diagram could be designed, perhaps by one of her students, that follows a piece of water through the Blackstone basin.

Mr. Griffith noted that the Team has an ambitious agenda but it is important to start with more than is needed as the material will be refined. Much of this information will be posted electronically while an executive summary will be printed for broad distribution.

Facilitator Recap: I want to recap the action items that I heard during the discussion: Precipitation and buildout information will be prepared, Caroline Karp will prepare some language for the context chapter, and per capita water information for residential users will be prepared.

4. Adjournment

Ms. Crawley concluded the meeting by stating that the staff will continue to work on developing the components of a water budget, and summarize what has been said today.

She thanked everyone for participating in today's meeting. The next meeting is scheduled for Wednesday, August 4, 2004.

Respectfully Submitted,

Beverly O'Keefe
RI Water Resources Board